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**From:** Hodgkiss, Miranda [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9D441DDB44AC4ED486058D2C2690B977-HODGKISS, MIRANDA]  
**Sent:** 12/20/2018 7:32:38 PM  
**To:** Schmidt, Michelle [Michelle.Schmidt@tetrattech.com]  
**CC:** Jon Butcher [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=usera6b9d251]  
**Subject:** FW: Temperature and Sediment Data in the Deschutes Watershed

Hi Michelle,

FYI, on the turbidity sampling methods. I will work with her on the data sharing agreement.

Miranda Hodgkiss  
Office of Water and Watersheds  
U.S. EPA Region 10  
(206) 553-0692  
[hodgkiss.miranda@epa.gov](mailto:hodgkiss.miranda@epa.gov)

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**From:** Reiter, Maryanne <[maryanne.reiter@weyerhaeuser.com](mailto:maryanne.reiter@weyerhaeuser.com)>  
**Sent:** Thursday, December 20, 2018 9:28 AM  
**To:** Hodgkiss, Miranda <[Hodgkiss.Miranda@epa.gov](mailto:Hodgkiss.Miranda@epa.gov)>  
**Subject:** RE: Temperature and Sediment Data in the Deschutes Watershed

Hi Miranda, I am working with our internal folks about releasing the data. We would need to have a data sharing agreement, which is protocol for us. Also you should note that the turbidity data from 2000-2008 was collected by doing a lab analysis on pump samples (4 per day in one bottle) while the data from roughly 2008 to the present is the TTS. These methods are not directly comparable since one is a static sample while the TTS is a dynamic optical property of the water. We do collect water sample for SSC analysis and a check on turbidity but those are from the TTS process when the turbidity is above a certain threshold. The 2000-2008 daily samples were analyzed for SSC when NTU > 4.

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**From:** Hodgkiss, Miranda <[Hodgkiss.Miranda@epa.gov](mailto:Hodgkiss.Miranda@epa.gov)>  
**Sent:** Tuesday, December 11, 2018 9:58 AM  
**To:** Reiter, Maryanne <[maryanne.reiter@weyerhaeuser.com](mailto:maryanne.reiter@weyerhaeuser.com)>  
**Subject:** RE: Temperature and Sediment Data in the Deschutes Watershed

Hi Maryanne,

Yes, that is correct. We did also disapprove and will be developing temperature TMDLs for some tributaries where Ecology's TMDL did not provide loadings.

Miranda Hodgkiss  
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**From:** Reiter, Maryanne <[maryanne.reiter@weyerhaeuser.com](mailto:maryanne.reiter@weyerhaeuser.com)>  
**Sent:** Tuesday, December 11, 2018 9:44 AM

**To:** Hodgkiss, Miranda <[Hodgkiss.Miranda@epa.gov](mailto:Hodgkiss.Miranda@epa.gov)>

**Subject:** RE: Temperature and Sediment Data in the Deschutes Watershed

Thanks Miranda, I am trying to understand more about EPA's disapproval of the original DOE TMDL and found this link. It sounds like EPA approved the temperature portion but disapproved bacteria, DO, fine sediment and pH. Is that correct? <https://fortress.wa.gov/ecy/publications/documents/1510012.pdf>

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**From:** Hodgkiss, Miranda <[Hodgkiss.Miranda@epa.gov](mailto:Hodgkiss.Miranda@epa.gov)>

**Sent:** Monday, December 10, 2018 9:38 AM

**To:** Reiter, Maryanne <[maryanne.reiter@weyerhaeuser.com](mailto:maryanne.reiter@weyerhaeuser.com)>

**Subject:** RE: Temperature and Sediment Data in the Deschutes Watershed

Hi Maryanne,

Thanks for the information – this helped us to narrow things down a bit. For our request, we would like data collected from 2000 to the present. The upstream extent of the Deschutes River QUAL2Kw model is close to site **1000 Br.**, so we would like to request the turbidity, SSC, temperature, and stream stage data from that site. If possible, we would also like to have the climate data from the two sites in the watershed.

I attempted to filter out our project scope using Ecology's water quality atlas, but it was a bit more difficult to filter for you than I hoped. Attached is a pdf that gives you a general idea of the scope of the project. This map actually highlights more waters than we are covering in the TMDL because I couldn't easily filter out for only the segments I wanted without going one-by-one, which would involve sending you almost 30 maps. So, I'm also attaching a list of the waterbodies and their associated IDs if you are curious to look them up in the Water Quality Atlas. To do so you would go here: <https://fortress.wa.gov/ecy/waterqualityatlas/StartPage.aspx>. Then select the Assessed Waters/Sediments tab at the top, and Search By: 303(d) list of impaired waters, then under Go To, type 'Deschutes' and select 'Deschutes, Percival, & Budd Inlet Watersheds TMDL' from the options that pop up. Hit the Map button, then use the Listing ID option under the Filter Data tab to search by listing ID.

Most of the segments we are looking at fall in the mid to lower portion of the watershed, with the exception of Huckleberry Creek. However, for characterizing the tributaries in the model (which have limited data), it is still helpful to have data from other tributaries in the watershed. Your data would be extremely helpful, so I really appreciate you helping us with this request!

Let me know if you have any questions.

Thanks,

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**From:** Reiter, Maryanne <[maryanne.reiter@weyerhaeuser.com](mailto:maryanne.reiter@weyerhaeuser.com)>

**Sent:** Friday, December 7, 2018 12:18 PM

**To:** Hodgkiss, Miranda <[Hodgkiss.Miranda@epa.gov](mailto:Hodgkiss.Miranda@epa.gov)>

**Subject:** RE: Temperature and Sediment Data in the Deschutes Watershed

Hi Miranda, here is a map of our stations and a brief description of what data we collect.

The 4 long-term Deschutes water quality/quantity sampling equipment were upgraded in 2006 and 2 new stations were added to capture the influence of glacial sediments on water quality patterns. Prior to the upgrade in 2006 turbidity was collected using a pump sampler with samples taken back to the lab for measurements. Stage and temperature were every 15 to 30 min depending on the time frame.

**Turbidity:** the turbidity is currently collected using Threshold Turbidity Samplers (TTS) using an optical sensor that reads and records the turbidity every 10 minutes. If the value and if it is above a certain threshold, the automatic pump sampler draws a water sample from the stream.

**Suspended Sediment Concentrations:** when the turbidity threshold is exceeded a water sample is collected in an ISCO automatic pump sampler as indicated above. These samples are brought back to the lab and SSC is measured.

**Temperature:** water temperature is collected every 10 min.

**Stream stage:** collected every 10 min. Discharge measurements are also collected in order to maintain a robust rating curve.

**Climate Station:** air temperature, rainfall etc. are collected at 2 stations in the watershed.

Please let me know what parameters and time frame you are interested in.

Maryanne

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